

**REDACTED VERSION OF  
DOCUMENT SOUGHT TO BE  
SEALED.**

**EXHIBIT 4**

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**From:** Lazarus, Eli M.  
**Sent:** Monday, August 24, 2020 9:46 AM  
**To:** 'Ted Wojcik'  
**Cc:** byrd@whafh.com; bens@hbsslaw.com; Dettmer, Ethan; Richman, Cynthia; Swanson, Daniel G.; Srinivasan, Jay P.; Phillips, Harry; Craig, Dana Lynn; Dansey, Lauren; robl@hbsslaw.com; shanas@hbsslaw.com; rifkin@whafh.com; guiney@whafh.com; dejong@whafh.com; warren@whafh.com; steve@hbsslaw.com  
**Subject:** RE: Apple App Store Antitrust

Ted,

Please see below our responses to the points raised in your email.

### **I. Sample production**

Plaintiffs did not raise receiving a sample of the data produced in relational tables until August 7, 2020. As we explained in our response on August 14, 2020, we have been working with our client to determine how to produce this second sample set of the transactional data. We are proceeding with preparing the sample data in relational tables as requested and anticipate producing the sample by August 28, but will notify you if it appears additional time will be necessary.

### **II. Timing and format of production**

In your email, you assume that there are only two possible explanations for the burden of preparing and producing the transactional data. But in our last meet and confer, and earlier, we explained to you that the process of collecting and producing this transactional data is an extremely burdensome endeavor because of the large volume of the transactional data requested. Indeed, even if the material is produced in relational tables, we anticipate the total amount of data will be approximately 30-35 Tb. Further, you requested in August that Apple change course with respect to how the data would be produced, after already investing significant resource in preparing a production. This ongoing preparation includes extracting the responsive data that Plaintiffs have requested from among unresponsive and irrelevant data in these large data sets, and preparing the data to be securely transferred to Plaintiffs.

Apple has already provided descriptions of the fields to be produced that are sufficient for you and your consultants to understand what data the production will contain. To the extent Plaintiffs have additional questions, however, there are multiple other discovery mechanisms available to Plaintiffs to inquire into the data, including seeking information through depositions.

### **III. Data fields and data dictionary**

**a. Data dictionary.** As we previously explained, our investigation has not located any such data dictionary or schema or other similar materials. We have, however, provided you with descriptions of the fields to be produced. We further reiterate that your discovery requests do not include any requests for data dictionaries or the like.

**b. Data related to \$99 fields.** We are continuing to diligently investigate your request and will revert with any additional relevant information. Apple is not obligated to direct you to specific documents containing responsive information, but we encourage you review the materials that have already been produced.

c. A field explaining why a 15% commission is charged instead of a 30% commission on some subscriptions. The [REDACTED]

[REDACTED], as explained in the document we provided to you on August 2 containing descriptions of the data. Moreover, you presume that [REDACTED]

[REDACTED]. As we previously explained, however, Plaintiffs can determine whether a user previously purchased a subscription and then calculate the royalty based on the information within the transactional data and the produced documents describing Apple's policies. [REDACTED]

#### **IV. Cost and Expense Data**

We anticipate that our next production of materials will include information responsive to your requests for cost data. We continue to investigate the documents that contained embedded links to what appear to be materials related to budgets.

Eli Lazarus

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**From:** Ted Wojcik <tedw@hbsslaw.com>

**Sent:** Tuesday, August 18, 2020 4:33 PM

**To:** Lazarus, Eli M. <ELazarus@gibsondunn.com>

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**Subject:** RE: Apple App Store Antitrust

[External Email]

Dear Eli,

Thanks for your most recent email. We're glad to be making progress too. Our more detailed responses to these points are below:

#### **I. Sample production**

We appreciate your willingness to produce a sample. Can you provide us with an update on your progress in compiling it, if it will be as requested (that is, 100 million rows in relational form), and the date by which you expect it will be complete? As you well know, it is now August 18; it is our position that, with each day that passes following July 31, plaintiffs suffer additional prejudice as a result of Apple's untimely data production. We are available this week to meet

and confer telephonically if you believe that would expedite the compilation and production of a sample. Can you confirm that a sample will be compiled and produced no later than this Friday (8/21)?

## **II. Timing and format of production**

Of the time Apple estimates it will take to apply to assemble the full production in relational form, you state: “As we stressed on the August 7 call, these one-week periods are very rough estimates, and the first one could begin only after plaintiffs have made a final decision to receive the production as a flat file or relational tables.”

Plaintiffs let you know in my August 10 email that we wanted to the data in relational form – either the sample as requested or the full production. So, we expected and hope that Apple has been compiling data in that form for production since then. However, to reiterate, Plaintiffs have made a final decision to receive the production as relational tables. Moreover, as explained in prior emails, we reserve all rights to request further production of structured data, consistent with standard document and data discovery practice. We are concerned that Apple has not yet begun to assemble the full production in relational form, and request that it do so immediately.

Further, you write that “the process of collecting and producing this large volume of transactional data is extremely burdensome.” Plaintiffs are also concerned by this statement regarding burden, as it appears to indicate one of two possibilities: either **(a)** Apple builds complex business rules into its database structure; and/or **(b)** Apple is doing a great deal of work on the front end to limit the data provided to Plaintiffs.

In the event **(a)** is true, Plaintiffs request that, as part of both its sample and full productions, Apple provide clear explanations of each variable and how to interpret it – as the meaning of these variables may be rendered opaque, or obscured entirely, by Apple’s business rules. You state below (with respect to Plaintiffs’ request for a data dictionary) that “we have provided you with descriptions of the fields to be produced, which are sufficient for you and your consultants to understand what data will be contained in the production.” Please confirm that, if reasonably necessary to understanding Apple’s new transactional data production, you will supplement these descriptions.

In the event **(b)** is true, Plaintiffs request that, as part of its production, Apple specify precisely how it limited the data provided to Plaintiffs, including the variables for which data was limited as well as all joins or merges performed in order to limit the data. As Plaintiffs have previously emphasized, Rule 34 bars Apple from degrading the usability of its data for this litigation by editing or “engineering” the data versus how as it’s originally kept.

## **III. Data fields and data dictionary**

Thank you for the additional information below, and for agreeing to produce (i) fields stating the end-user’s method of payment; (ii) the [REDACTED]; and (iii) the [REDACTED] field. As you know, we are meeting and conferring separately regarding whether Developer Plaintiffs’ claims (as pled) include foreign App Store storefront transactions, and anticipate that the outcome of this meet and confer will resolve our ongoing dispute over the relevance of the [REDACTED] and [REDACTED] fields. (In fact, we should talk again about this aspect of the data again soon). We respond to your points about the data dictionary, \$99 fee fields, and commission rate fields separately below.

### **a. Data dictionary.** In your email, you state:

Your email below quotes my August 5 email as stating that “Ben’s July 31 email also asked whether Apple maintains a data dictionary that describes all the fields relating to App Store transactional data. Our investigation has not located any such data dictionary, but as you know, we recently sent you a list of definitions for values in the sample production fields.” We have revisited this issue in our investigation, and the language that you quoted remains true. However, as you know, we have provided you with descriptions of the fields to be produced, which are sufficient for you and your consultants to understand what data will be contained in the production.

This answer is not responsive to the question raised in our August 10 email, which we restate here and pose to you once more:

Consistent with this, we request[] that you conduct a further search for such existing sources where the fields in Apple's database(s) are defined, and if located, confirm that such sources exist and describe them. It may be that these documents bear different labels than previously discussed (e.g., "schema" rather than "data dictionary") or that the information plaintiffs request is spread across several documents or sources rather than a single, comprehensive dictionary-type document. Would you please confirm that you will conduct a further search for these documents and if located, confirm that such sources exist and describe them?

To the extent such sources exist, Plaintiffs' position is that they are very likely both relevant and responsive to their discovery requests; specifically, these documents may be necessary to our ability to assess the adequacy and responsiveness of Apple's production of transactional data, including its exclusion of potentially relevant data fields.

- b. Data related to \$99 fields.** You state that fields do not exist in the transactional database related to the \$99 fees paid by developers. This seems plausible given the purpose of Apple's transactional database. However, it strikes Plaintiffs as unusual that this information would not be maintained in structured form, and await the outcome of your investigation into whether, as you state, \$99 fee data "exists somewhere in a form that can be produced without undue burden." To the extent such documents have already been produced, would you please identify them by Bates number?
- c. A field explaining why a 15% commission is charged instead of a 30% commission on some subscriptions.** Finally, you state that [REDACTED] However, if this is true, what does the [REDACTED] field in the transactional database indicate?

Relatedly, you also state that "Plaintiffs can check in the data when a given user has previously purchased a subscription." However, this implies that Apple uses some sort of programming code to determine the appropriate commission rate for subscription renewals. Specifically, Apple's answer implies that the programming code calculates the first date of the subscription between the person\_id and the [REDACTED], and then checks whether more than 365 days have elapsed since that first purchase date. If so, the 85% commission rate applies; if not, then the default 30% commission rate applies. Please produce the programming code Apple uses to determine the appropriate royalty rate for each transaction. Additionally, please ensure that Apple's transactional data production includes every field that Apple's programming code uses to determine the appropriate commission rate.

If Apple's transaction data includes a field that stores the relevant date of each person's first subscription purchase of each application, then please include that in future data productions so that Plaintiffs can confirm Apple's representations as to how Apple determines the applicable commission rate for subscription renewals.

Relatedly, Apple's public statements indicate that the appropriate commission rate for a subscription renewal also depends on the "subscription group," see <https://developer.apple.com/app-store/subscriptions/>. To Plaintiffs' knowledge, Apple has not previously produced the "subscription group" variable in the sample data, which would prevent Plaintiffs from confirming the accuracy of Apple's representations about how it determines the commission rate that applies to subscription renewals. Please include the "subscription group" field in all future productions.

#### IV. Cost and Expense Data

Developer Plaintiffs identified several important and time-sensitive questions related to Apple's cost and expense data in their July 9, 2020 meet and confer letter. We have followed up on this point several times in the more than a month since, most recently in my August 10 email. We are concerned that we have not received a response to our questions. We have already been prejudiced by this delay, but to avoid further delay, we ask that Apple respond by the end of this week.

#### **V. Plaintiffs' document production**

In your email, you identify certain documents in Developer Plaintiffs' productions that contain embedded links to documents that were not included in the productions and "appear directly relevant to the litigation." We are investigating these documents now and are working to respond in more detail as soon as possible.

Sincerely,  
Ted

Ted Wojcik | **Hagens Berman Sobol Shapiro LLP** | Direct: (206) 268-9329

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**From:** Lazarus, Eli M. <[elazarus@gibsondunn.com](mailto:elazarus@gibsondunn.com)>

**Sent:** Friday, August 14, 2020 12:26 PM

**To:** Ted Wojcik <[TedW@hbsslaw.com](mailto:TedW@hbsslaw.com)>

**Cc:** [byrd@whafh.com](mailto:byrd@whafh.com); Ben Siegel <[bens@hbsslaw.com](mailto:bens@hbsslaw.com)>; [edettmer@gibsondunn.com](mailto:edettmer@gibsondunn.com); [crichman@gibsondunn.com](mailto:crichman@gibsondunn.com); [dswanson@gibsondunn.com](mailto:dswanson@gibsondunn.com); [jsrinivasan@gibsondunn.com](mailto:jsrinivasan@gibsondunn.com); [hphillips2@gibsondunn.com](mailto:hphillips2@gibsondunn.com); [dcraig@gibsondunn.com](mailto:dcraig@gibsondunn.com); [ldansey@gibsondunn.com](mailto:ldansey@gibsondunn.com); Rob Lopez <[robl@hbsslaw.com](mailto:robl@hbsslaw.com)>; Shana Scarlett <[shanas@hbsslaw.com](mailto:shanas@hbsslaw.com)>; [rifkin@whafh.com](mailto:rifkin@whafh.com); [guiney@whafh.com](mailto:guiney@whafh.com); [dejong@whafh.com](mailto:dejong@whafh.com); [warren@whafh.com](mailto:warren@whafh.com); Steve Berman <[Steve@hbsslaw.com](mailto:Steve@hbsslaw.com)>

**Subject:** RE: Apple App Store Antitrust

Ted, thanks for your email below. We are glad to be making progress towards completing Apple's transactional data production. Below, we respond to points raised in your email, including with some corrections or clarifications where appropriate.

#### **I. Production Format and Timing**

**First**, you write that we "said that Apple could most likely assemble the full production of transactional data in relational form in approximately one week, and that, once this process is completed, it would take approximately one additional week to convey this data to plaintiffs." As we stressed on the August 7 call, these one-week periods are very rough estimates, and the first one could begin only after plaintiffs have made a final decision to receive the production as a flat file or relational tables. However, we do not have any more precise estimates to share at this point.

**Second**, you asked about the database form in which the data would be provided. We expect the data will be provided in tab-delimited form. If that proves not feasible, a different delimiter will be used.

**Third**, you asked about the size of the anticipated full production in relational form. We have investigated this and understand that a switch to relational format would reduce the size of the initial production by 5-20%, though we believe it will be closer to 5%. We do not have exact figures here, and do not know what the size of the primary transaction table would be. We will not be able to get accurate numbers on these questions until the production is actually prepared.

**Fourth**, if Apple produces the data as relational tables, Apple intends to provide plaintiffs with join criteria for the relational tables. We do not yet know the precise form in which the join criteria will be provided.

**Fifth**, you have previously asked about the time periods covered by the transactional data fields. We can confirm that all fields to be included in Apple's transactional data production contain data extending back to the launch of the App Store or the relevant App Store feature.

## **II. Additional Sample Production**

Your email below proposes that Apple produce a sample of transactional data in relational form that includes 100 million rows of data, rather than the 100,000 produced in the previous sample production. Apple is of course not obligated to provide any sample productions, and we believe that the robust sample already provided contains sufficient information to demonstrate to plaintiffs what kind of data would be included in the ultimate production. However, as we have stated previously, the process of collecting and producing this large volume of transactional data is extremely burdensome, and Apple will provide the full production only one time. Accordingly, we recognize the value of resolving any issues with the data before the full production. Apple agrees in principle to provide an additional sample production of the transactional data in relational form. We will endeavor to include 100 million rows of data in this sample, but transferring this volume of data will be burdensome, and we are still working to determine how a sample production like this could be transferred to you. We will let you know if the sample needs to consist of fewer than 100 million rows in order to make the transfer reasonably manageable. We are also working to determine how quickly we can make this sample production, but we hope to do so soon.

## **III. Data Fields**

- a. **Data dictionary.** Your email below quotes my August 5 email as stating that "Ben's July 31 email also asked whether Apple maintains a data dictionary that describes all the fields relating to App Store transactional data. Our investigation has not located any such data dictionary, but as you know, we recently sent you a list of definitions for values in the sample production fields." We have revisited this issue in our investigation, and the language that you quoted remains true. However, as you know, we have provided you with descriptions of the fields to be produced, which are sufficient for you and your consultants to understand what data will be contained in the production. (We would note further that your discovery requests do not include any requests for data dictionaries.)
- b. **Data related to \$99 fees.** Your email below raises the issue of data relating to \$99 fees paid by developers. It is true that at one point we believed that fields relating the \$99 fees were included in the transactional database or another database from which that data could be paired to the transactional database. We have since learned that that is not the case. (This of course makes sense because with respect to the App Store the transactional database contains data on each content transaction. The \$99 fees are not content transactions.) We are still investigating whether \$99 fee data exists somewhere in a form that can be produced without undue burden. However, we would note again that our response to your discovery request regarding the \$99 fees states that "Apple will produce non-privileged documents sufficient to respond to this Request, to the extent such documents exist, are within Apple's possession, custody, or control, and can be located after conducting a reasonably diligent search of Apple's agreed-upon custodians' documents pursuant to the final ESI protocol." Accordingly, we have produced any documents responsive to this request identified in our review of custodial documents.
- c. **A field explaining why a 15% commission is charged instead of a 30% commission on some subscriptions.** As previously discussed, [REDACTED] Instead, as Apple states publicly, "developers earn 70% of subscription sales for the first subscription year, and Apple collects a 30% commission. After the first year, the developer earns 85% for all successive years that the user remains a subscriber, and Apple collects a 15% commission." See <https://www.apple.com/ios/app-store/principles-practices/>. Apple does not create any data or metadata in the transactional database to identify subscriptions as being older than one year or not. However, again, plaintiffs can check in the data when a given user has previously purchased a subscription.



- d. [REDACTED]
- e. [REDACTED]. As requested in your email, we can confirm that there are not multiple U.S. storefronts and that all U.S. storefront sales occur under a single [REDACTED]. Accordingly, as stated in our August 5 email, the [REDACTED] fields are not necessary here because this production is limited to data from the U.S. storefront.
- f. [REDACTED]
- g. [REDACTED]

#### IV. Cost and Expense Data

With regard to Apple's production of materials responsive to plaintiffs' requests for cost data, our investigation is ongoing, but as we relayed on the August 7 call, we expect to have an update soon.

Separately, in meet and confer correspondence following some of Apple's document productions, you have raised the issue of certain documents containing embedded links to other documents that are not included in the production, some of which you believe to relate to App Store cost or budget issues. As we discussed briefly on the phone call on August 7, this involves complicated technical issues, but we are working diligently to get to the bottom of them. We will be in touch with you about this topic when we have more information to share.

Meanwhile, we would alert you that our review of Developer Plaintiffs' productions has identified certain documents that contain embedded links to documents that were not included in the productions and appear directly relevant to the litigation. Specifically, LBN\_0002256 contains a link to a Google Docs spreadsheet that apparently contains information about "Lil' Baby Names revenues, expenses, marketing, and other news." Other documents (LBN\_0000007, LBN\_0002159, LBN\_0002162) link to files that apparently describe the API for Lil' Baby Names, while another (LBN\_0000043) links to a document of "descriptions for the Lil Baby Names app." Although it seems that these linked documents would be highly relevant to the litigation, they were not produced. Why not? Please produce them now. Similarly, Pure Sweat Basketball's productions of documents include documents linking to Google documents entitled "Pure Sweat App Release 1.0 Checklist" (PSB\_0000194) and "Android vs. Apple version" (PSB\_0000272, PSB\_0002192, PSB\_0010891). Other documents linked from PSB documents appear to concern app functionality and related feedback (PSB\_0010528, PSB\_0010598, PSB\_0010196). Several others (PSB\_0006729, PSB\_0006731, PSB\_0006733, PSB\_0006772, PSB\_0006776, PSB\_0006795, PSB\_0006798, PSB\_0006805, PSB\_0006811, PSB\_0006819, PSB\_0006826, PSB\_0006837) link to documents that may be the same or different versions of messaging to PSB customers. Additional examples of PSB documents with embedded links to other documents include PSB\_0004760, PSB\_0010523, PSB\_0001098, PSB\_0009350, and PSB\_0010881. Although it seems that that these documents would be highly relevant to the litigation, they were not produced. Why not? Please produce them now.

Best regards,  
Eli

Eli Lazarus



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**From:** Ted Wojcik <[tedw@hbsslaw.com](mailto:tedw@hbsslaw.com)>  
**Sent:** Monday, August 10, 2020 2:26 PM  
**To:** Lazarus, Eli M. <[ELazarus@gibsondunn.com](mailto:ELazarus@gibsondunn.com)>  
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**Subject:** RE: Apple App Store Antitrust

[External Email]

Dear Eli,

Thanks for the productive call this past Friday (August 7). Below we've summarized some of what we discussed, including what Apple has committed to do next. We also (1) describe in more detail our proposal that Apple produce a sample of the transactional data in relational form; (2) summarize and discuss the parties' ongoing discussion regarding data fields (including points not reached in our conversation); and (3) summarize and discuss the parties' ongoing discussion regarding Apple's production of cost and expense data. We've grouped these points by heading below. Given the time-sensitive nature of our requests for transactional data production, we ask that you respond to the questions in Sections I and II by tomorrow, if possible.

### **I. Outstanding questions for Apple's resolution/investigation**

**First**, you said that Apple could most likely assemble the full production of transactional data in relational form in approximately one week, and that, once this process is completed, it would take approximately one additional week to convey this data to plaintiffs (we recognize that the latter process will depend, in part, on the form of production agreed upon by the parties). Can you confirm this timeline, and/or provide additional detail about the time you expect it would take Apple to produce its data in this form?

**Second**, you said that you would investigate and confirm the specific database form in which the data would be provided. We believe that this information should be readily available to Apple, and ask for a response on this point as soon as possible. Can you provide us a brief description of the form as well?

**Third**, you said that you would investigate the size of the anticipated full production in relational form, including the size of Apple's primary transaction table. We believe that this information should be readily available to Apple, and would appreciate a response on this point as soon as possible.

**Fourth**, you said that you would investigate and confirm that, if Apple produces its data as relational tables, Apple intends to provide plaintiffs with a description of the relationships ("mapping") among the fields in the relational tables. In addition to confirming this, please identify what form these descriptions will take – for

instance, can the software Apple uses produce a list of these links, or will Apple produce a separate document in which they're set forth?

To elaborate on this point, it is our understanding that, because Apple's data is stored in a relational database (and not merely as a set of independent relational tables), this database will already have structured queries and reports – regardless of whether they're part of the native database or part of other application layers that interface with the database – that are used by Apple to organize and interpret the data. Thus, if Apple produced a copy of its relational database, the links between the fields would be clear. Apple cannot – by virtue of its decision to go in and edit the tables, including to delete certain fields – degrade the usability of the data.

If Apple were to do so, and simply produce a number of relational tables from within that database with no further explanation or information about the fields and their relationships, Apple would be violating its legal obligations under Rule 34 by "convert[ing] electronically stored information from the form in which it is ordinarily maintained to a different form that makes it more difficult or burdensome for [us] to use the information efficiently in the litigation." Fed. R. Civ. P. 34(b) Advisory Comm. Notes to 2006 Amendment; *see also The Sedona Principles, Third Edition*, 19 Sedona Conf. J. 1, 80 (2018) ("[T]he 2006 Committee Note to Rule 34 makes clear that the option to produce in a 'reasonably usable form' does not mean that a responding party . . . is free to convert ESI from the form in which it is ordinarily maintained to a different form that makes it more difficult or burdensome for the requesting party to use the information efficiently in the litigation."); *see generally Hahn v. Massage Envy Franchising, LLC*, No. 12CV153-DMS (BGS), 2014 WL 12899290, at \*9 (S.D. Cal. July 24, 2014) ("Rule 34's procedures were designed to prevent responding parties from converting ESI out of the 'form in which it is ordinarily maintained to a form that makes it more difficult or burdensome for the requesting party to use the information efficiently in the litigation.'" (quoting Fed. R. Civ. P. 34(b) Advisory Comm. Notes to 2006 Amendment)). If by virtue of engineering its database Apple cannot help but degrade the usability of its data for efficient use in this litigation, it is plaintiffs' position that it is obligated to produce a copy of the entire database. It goes without saying that the Rule 34 principle that Apple cannot degrade the usability of its data for this litigation by editing or "engineering" the data as it's originally kept applies to all aspects of data production from Apple's databases.

## **II. Developer plaintiffs' proposal for production of a sample of relational data**

We also discussed the possibility of Apple producing a sample of its transactional data in relational form to plaintiffs in advance of the full production; I promised to follow up with a more detailed proposal in writing. This is set forth below.

In your August 5 email, you explained that

the reason Apple has produced such a robust sample data set is so that we can identify and resolve any issues before production, and avoid any need to repeat production. Indeed, this is the very purpose of a sample production. Production of this data is extremely burdensome and technically challenging, and Apple will not agree to do it a second time. We need to resolve issues with the production now—which we are working hard to do—so Plaintiffs need to identify any issues that you see with the sample set now.

As we explained on the call, developer plaintiffs disagree with Apple's position. Developer plaintiffs believe that, even while there are outstanding meet and confers and disputes between the parties about fields are relevant, we are nevertheless entitled to the full production of transactional data in relational tables. The

alternative is that Apple would effectively be able to withhold full data production until all issues – which may become discovery disputes requiring briefing and lengthy court intervention (note, of course, that we will work diligently to meet and confer to resolve these disputes amicably) – are resolved. This risks unacceptable delay. It is also inconsistent with how normal document discovery is done. The producing party cannot withhold production until the requesting/receiving party agrees that there will be no more requests for further production based on existing document requests or new ones. It is quite normal that review of a production will lead to further meet and confers and either with or without disputes, additional production of documents. Discovery of structured data is no different, with both sides reserving all rights if there is a request for further production, as to relevance, responsiveness, and burden.

Moreover, and specifically because the prior sample from the flat file provided no insight into potential problems with Apple's production of relational tables, we believe that production of a sample in relational form is particularly necessary in order to "identify and [attempt to] resolve any issues."

In recognition of our differences of opinion, however, we propose the following compromise: Apple will produce a sample of transactional data in relational form that includes 100 million rows of data, rather than the 100,000 produced in the previous sample of data from the single (or "flat") file. This should impose much less of a burden on Apple as compared to a full production of all of data. Because the size of the previous sample was approximately 40 MB, increasing this by 1000x would likely result in a file that is only 40 GB in size (this further assumes no efficiency gains in relational vs. flat production, a point the parties have already discussed at length). For reference, many USB memory sticks today have a capacity of 64 GB and cost less than \$10.

We believe this proposal represents an acceptable compromise between Apple's and developer plaintiffs' positions regarding production of the full transactional data. A larger sample would allow our consultant experts to begin their substantive work in analyzing Apple's transactional data; meanwhile, it would allow developer plaintiffs to raise potential problems (e.g., problems regarding form of production or the adequacy/relevance of certain fields) with Apple, and meet and confer now on any issues that arise.

Please let us know as soon as possible whether this proposal is acceptable to Apple and, if so, the date by which Apple would be able to produce such a sample to developer plaintiffs. If a sample production of this size is something that Apple will not agree to, we ask that Apple confirm it will move ahead with full production now, and we reserve our rights to continue to meet and confer about issues with the production – such as sufficiency of the fields – and to request supplemental production. Apple of course can reserve its rights to oppose supplementation on any grounds it wishes.

### **III. Outstanding questions regarding fields**

Below we summarize our discussion regarding fields, using your August 5 email as a template. As promised, we've also included our responses and questions regarding those points we weren't able to reach before I signed off. Please note that the following comments are not meant to be exhaustive (although plaintiffs believe that each is sufficient to justify their requests).

- a. **Apple's production of a data dictionary.** In your August 5 email, you stated that "Ben's July 31 email also asked whether Apple maintains a data dictionary that describes all the fields relating to App Store transactional data. Our investigation has not located any such data dictionary, but as you know, we recently sent you a list of definitions for values in the sample production fields."

As discussed on the call, it seems unlikely to us that a company as large and sophisticated as Apple would not maintain some kind of document(s), spreadsheet(s), or database(s) in which this information is stored and made available to employees – whether these materials are themselves contained in word document(s), spreadsheet(s), or in some other form. Is Apple representing that the names of the fields (and the descriptions of them) in its databases are not written down or stored anywhere?

Consistent with this, we requested that you conduct a further search for such existing sources where the fields in Apple’s database(s) are defined, and if located, confirm that such sources exist and describe them. It may be that these documents bear different labels than previously discussed (e.g., “schema” rather than “data dictionary”) or that the information plaintiffs request is spread across several documents or sources rather than a single, comprehensive dictionary-type document. Would you please confirm that you will conduct a further search for these documents and if located, confirm that such sources exist and describe them?

- b. Data related to \$99 fees.** In your August 5 email, you stated that the database housing Apple’s transactional data “does not contain data relating to the \$99 fees.” As we discussed during the call, this representation appears to be at odds with your June 25 email, in which you said that Apple had “further investigated the available data fields . . . [and] developed the following list of fields that contain the data responsive to your requests,” including a \$99 fee field.

As I understood your clarifying comments during the call, you originally believed that this field was included in Apple’s transactional database, but have since learned that it is not and is in fact stored elsewhere. Would you please indicate how Apple intends to produce this information to developer plaintiffs, as well as the nature and form of the database in which it is stored?

- c. A field explaining why a 15% commission is charged instead of a 30% commission on some subscriptions.** In your August 5 email, you stated that Apple is “working to determine whether such a field is available.” During our call, you clarified that, based on further investigation, [REDACTED]

[REDACTED] However, Ethan indicated during the call that you do not have a clear understanding of how this actually works – that is, the specific mechanic/mechanism/formula (I use these terms loosely) by which this information is tracked and determined in Apple’s relational tables.

Would you please investigate further and clarify, in detail, how this transactional data is generated? To the extent there is some underlying formula/set of formulas (similar to the way that formulas can be utilized in Microsoft Excel) that Apple relies on to organize and create the data in its relational tables, and to the extent this information is necessary to render Apple’s transactional data in an intelligible and easily searchable way, developer plaintiffs are entitled to it under Rule 34.

- d. Fields stating the end-user’s method of payment.** You stated in your August 5 email that Apple is “working to determine whether such a field is available.” Prior to the call, we were concerned that this claim was at odds with your July 31 letter, in which you indicated that the [REDACTED] field does exist, but that Apple was unclear whether it was responsive or

relevant. However, on the call, you indicated that a payment method field did exist after double-checking. We appreciate this further inquiry. Can you please confirm that a payment field exists, identify and describe it, and either confirm that it will be produced or that Apple's position is that it will not be produced (and if so, specify the reason(s))?

- e. The [REDACTED] field and the [REDACTED] You stated in your August 5 email that "both of these fields relate to the consumer's storefront and are not necessary here because this production is limited to data from the U.S. storefront."

Can Apple confirm that there are not multiple US storefronts and that all US storefront sales occur under a single [REDACTED]? If Apple cannot affirm those points, developer plaintiffs' position is that these fields will still be relevant even for analyzing the US storefront(s). Furthermore, as you know, it is developer plaintiffs' position that their claims (as pled) include foreign App Store storefront transactions. The parties are currently meeting and conferring separately about this issue, and we urge Apple to consider the efficiencies of providing information regarding countries and storefronts now.

- f. "[T]he [REDACTED]' field. You stated in you August 5 email that [REDACTED]. This information is not relevant to plaintiffs' claims or responsive to plaintiffs' discovery requests."

We disagree with Apple's position on relevance and responsiveness. Unless Apple intends to argue that the App Store doesn't provide any marketing value for developers, developer plaintiffs are entitled to explore the source(s) of that value; plaintiffs have also requested data regarding app and in-app add on distributions. Please confirm Apple's position and indicate whether the parties are at an impasse on this issue and, if so, your availability for a further telephonic meet and confer consistent with Magistrate Judge Hixson's standing order.

- g. The [REDACTED]' field. You stated in your August 5 email that [REDACTED]. This information is not relevant to plaintiffs' claims or responsive to plaintiffs' discovery requests."

Developer plaintiffs' position is that this field is relevant and responsive to their discovery requests, and that Apple is obligated provide this field; specifically, this information will allow developer plaintiffs to evaluate the extent to which any purported "improvements" affected App Store-related activity.

We request that Apple elaborate on its objection to producing this information. Furthermore, please indicate whether the parties are at an impasse on this issue and, if so, your availability for a further telephonic meet and confer consistent with Magistrate Judge Hixson's standing order.

#### **IV. Cost and expense data**

My understanding is that after I left the call, the parties discussed the important issue of Apple's production of cost and expense documents, including the questions set forth in our July 9 email and the specific documents referenced therein. Therefore, what follows is based on the discussion between Rob, Ben, Rachele and Apple counsel.

Most generally, in your July 31 letter, you responded that Apple is “continu[ing] to investigate whether” data sources exist that reflect the costs Apple incurs in connection with the App Store, and that, with respect to the specific Apple emails developer plaintiffs identified in their July 9 letter, Apple is “investigating this issue and will respond to [developer plaintiffs] in due course.”

During the call, you assured that your investigation continues. As we are now past the July 31 substantial completion date, please provide an update as to the status of the investigation into the specific documents developer plaintiffs have identified in the July 9 email, as well as the status of the investigation as to cost and expense data on a larger scale (including in response to the questions and issues raised specifically in the July 9 letter – we ask for answers to the several questions raised). Please also advise as to when you anticipate the investigation, processing, and production of the responsive material will occur.

Specifically, with regard to the types of documents identified in the July 9 letter, developer plaintiffs’ position is that these documents are highly relevant and should be produced from wherever they are located. Developer plaintiffs identified, by way of example only, specific Apple emails containing links to documents responsive to this request. We have advised that the linked documents weren’t provided as part of a document family along with the linking emails, and that thus far we have not been able to locate them elsewhere in the document productions. One thing that is certain is that these linked documents existed at some point. Because they also appear to have been saved as links in an internal Apple database, it is also at least reasonably likely that they are organized in a database alongside other cost/expense/budget documents.

We request confirmation that these documents (i) existed and (ii) were served in some kind of Apple database, as well as an explanation, if these documents cannot be produced, of what happened to them – were they saved as static documents and/or live documents (or both)? Were they saved in the form they were in at the time of the emails and/or updated (or both)? Were they deleted at some point – and if so, when? Furthermore, we request that Apple investigate where these documents were saved, and speak to the people who authored, reviewed, or edited these documents, to determine answers to these questions and whether a database or databases of these and/or similar document exist(s). Will Apple do that?

Thanks again for your time on the call Friday. We look forward to talking again soon.

Best,  
Ted

Ted Wojcik | **Hagens Berman Sobol Shapiro LLP** | Direct: (206) 268-9329

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**From:** Lazarus, Eli M. <[elazarus@gibsondunn.com](mailto:elazarus@gibsondunn.com)>

**Sent:** Thursday, August 6, 2020 4:07 PM

**To:** Ted Wojcik <[TedW@hbsslaw.com](mailto:TedW@hbsslaw.com)>

**Cc:** [byrd@whafh.com](mailto:byrd@whafh.com); Ben Siegel <[bens@hbsslaw.com](mailto:bens@hbsslaw.com)>; [edettmer@gibsondunn.com](mailto:edettmer@gibsondunn.com); [crichman@gibsondunn.com](mailto:crichman@gibsondunn.com); [dswanson@gibsondunn.com](mailto:dswanson@gibsondunn.com); [jsrinivasan@gibsondunn.com](mailto:jsrinivasan@gibsondunn.com); [hphillips2@gibsondunn.com](mailto:hphillips2@gibsondunn.com); [dcraig@gibsondunn.com](mailto:dcraig@gibsondunn.com); [ldansey@gibsondunn.com](mailto:ldansey@gibsondunn.com); Rob Lopez <[robl@hbsslaw.com](mailto:robl@hbsslaw.com)>; Shana Scarlett <[shanas@hbsslaw.com](mailto:shanas@hbsslaw.com)>; [rifkin@whafh.com](mailto:rifkin@whafh.com); [guiney@whafh.com](mailto:guiney@whafh.com); [dejong@whafh.com](mailto:dejong@whafh.com); [warren@whafh.com](mailto:warren@whafh.com); Steve Berman <[Steve@hbsslaw.com](mailto:Steve@hbsslaw.com)>

**Subject:** Re: Apple App Store Antitrust

Thanks Ted



Sent from my iPhone

On Aug 6, 2020, at 15:23, Ted Wojcik <[tedw@hbsslaw.com](mailto:tedw@hbsslaw.com)> wrote:

[External Email]

Eli, I realized that I never sent around a meeting invite for the call tomorrow. Sorry about that, I'll do it now. Dial-in info is also below:

Dial-in number: 1-888-585-9008

Conference Room: 784-014-142

Ted Wojcik | **Hagens Berman Sobol Shapiro LLP** | Direct: (206) 268-9329

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**From:** Ted Wojcik

**Sent:** Thursday, August 6, 2020 8:38 AM

**To:** Byrd, Rachele <[byrd@whafh.com](mailto:byrd@whafh.com)>; [elazarus@gibsondunn.com](mailto:elazarus@gibsondunn.com)

**Cc:** Ben Siegel <[bens@hbsslaw.com](mailto:bens@hbsslaw.com)>; [edettmer@gibsondunn.com](mailto:edettmer@gibsondunn.com); [crichman@gibsondunn.com](mailto:crichman@gibsondunn.com); [dswanson@gibsondunn.com](mailto:dswanson@gibsondunn.com); [jsrinivasan@gibsondunn.com](mailto:jsrinivasan@gibsondunn.com); [hphillips2@gibsondunn.com](mailto:hphillips2@gibsondunn.com); [dcraig@gibsondunn.com](mailto:dcraig@gibsondunn.com); [ldansey@gibsondunn.com](mailto:ldansey@gibsondunn.com); Rob Lopez <[robl@hbsslaw.com](mailto:robl@hbsslaw.com)>; Shana Scarlett <[shanas@hbsslaw.com](mailto:shanas@hbsslaw.com)>; [rifkin@whafh.com](mailto:rifkin@whafh.com); [guiney@whafh.com](mailto:guiney@whafh.com); [dejong@whafh.com](mailto:dejong@whafh.com); [warren@whafh.com](mailto:warren@whafh.com); Steve Berman <[Steve@hbsslaw.com](mailto:Steve@hbsslaw.com)>

**Subject:** RE: Apple App Store Antitrust

Eli, 10 a.m. PT tomorrow works well for us.

Ted

Ted Wojcik | **Hagens Berman Sobol Shapiro LLP** | Direct: (206) 268-9329

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**From:** Byrd, Rachele <[byrd@whafh.com](mailto:byrd@whafh.com)>

**Sent:** Thursday, August 6, 2020 7:50 AM

**To:** [elazarus@gibsondunn.com](mailto:elazarus@gibsondunn.com)

**Cc:** Ted Wojcik <[TedW@hbsslaw.com](mailto:TedW@hbsslaw.com)>; Ben Siegel <[bens@hbsslaw.com](mailto:bens@hbsslaw.com)>; [edettmer@gibsondunn.com](mailto:edettmer@gibsondunn.com); [crichman@gibsondunn.com](mailto:crichman@gibsondunn.com); [dswanson@gibsondunn.com](mailto:dswanson@gibsondunn.com); [jsrinivasan@gibsondunn.com](mailto:jsrinivasan@gibsondunn.com); [hphillips2@gibsondunn.com](mailto:hphillips2@gibsondunn.com); [dcraig@gibsondunn.com](mailto:dcraig@gibsondunn.com); [ldansey@gibsondunn.com](mailto:ldansey@gibsondunn.com); Rob Lopez <[robl@hbsslaw.com](mailto:robl@hbsslaw.com)>; Shana Scarlett <[shanas@hbsslaw.com](mailto:shanas@hbsslaw.com)>; [rifkin@whafh.com](mailto:rifkin@whafh.com); [guiney@whafh.com](mailto:guiney@whafh.com); [dejong@whafh.com](mailto:dejong@whafh.com); [warren@whafh.com](mailto:warren@whafh.com); Steve Berman <[Steve@hbsslaw.com](mailto:Steve@hbsslaw.com)>

**Subject:** Re: Apple App Store Antitrust

That time works for me too.

Rachele

On Aug 5, 2020, at 9:57 PM, Lazarus, Eli M. <[ELazarus@gibsondunn.com](mailto:ELazarus@gibsondunn.com)> wrote:

Thanks, Ted. We could speak Friday at 10 a.m. PT.

Eli Lazarus

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From: Ted Wojcik <[tedw@hbsslaw.com](mailto:tedw@hbsslaw.com)>  
Sent: Wednesday, August 5, 2020 8:12 PM  
To: Lazarus, Eli M. <[ELazarus@gibsondunn.com](mailto:ELazarus@gibsondunn.com)>  
Cc: [bens@hbsslaw.com](mailto:bens@hbsslaw.com); [byrd@whafh.com](mailto:byrd@whafh.com); Dettmer, Ethan <[EDettmer@gibsondunn.com](mailto:EDettmer@gibsondunn.com)>;  
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[steve@hbsslaw.com](mailto:steve@hbsslaw.com)  
Subject: RE: Apple App Store Antitrust

[External Email]

Dear Eli,

Thanks very much for conveying Apple's willingness to produce the transactional data in relational tables. We appreciate the quick work you have put in with your technical team, as well as your attention to the points we've raised in past emails.

We are conferring with our consultants in light of the comments you have made and will get back to you as soon as possible to confirm the format of ultimate production to the developer plaintiffs. We also anticipate having further questions about the specific manner in which your client intends to produce the transactional data, as well as additional comments and questions in response to your most recent email. We agree that a call would likely be effective in continuing to move things forward, and would preliminarily suggest a call on Friday. Are there times that day that work well for your team?

Best,

Ted

Ted Wojcik | Hagens Berman Sobol Shapiro LLP | Direct: (206) 268-9329

From: Lazarus, Eli M. <[elazarus@gibsondunn.com](mailto:elazarus@gibsondunn.com)<<mailto:elazarus@gibsondunn.com>>>  
Sent: Wednesday, August 5, 2020 2:46 PM  
To: Ted Wojcik <[TedW@hbsslaw.com](mailto:TedW@hbsslaw.com)<<mailto:TedW@hbsslaw.com>>>  
Cc: Ben Siegel <[bens@hbsslaw.com](mailto:bens@hbsslaw.com)<<mailto:bens@hbsslaw.com>>>

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<[Steve@hbsslaw.com](mailto:Steve@hbsslaw.com)<<mailto:Steve@hbsslaw.com>>>  
Subject: RE: Apple App Store Antitrust

Ted: we received your email from last night reiterating, again, that Developer Plaintiffs would like Apple to produce transactional data in relational tables. We appreciate the specific examples of particular technical issues that you have provided. As my past emails have made clear, we have had our technical team looking at the specific assertions you have made in your recent correspondence.

Now that our technical team has had the chance to examine these issues closely, we can share the following. Apple is able to produce the transactional data to you in relational tables or in a single flat file. Our understanding has been and continues to be that a single flat file will be easier for you and your consultants to work with as each line is a unique transactional record. If we produce relational tables, it is true that the data size of the primary file would be somewhat smaller (though our team sees no basis for believing that the total amount of data would decrease by anything like the “five to fifteen times” you suggest). However, relational tables will require your team to do significant work to join the tables for analysis, and the processing and analysis time will likely be greater. It would also take some time for our team to switch to producing relational tables. But Apple will produce in a single flat table or in relational tables as you choose. You are on notice, however, that whichever production format you decide on, Apple will produce the data only once and will not make a second production because Plaintiffs come to regret not having asked for any different format.

In that regard, your email from last night states that “following Apple’s full production of transactional data, the parties will of course continue to meet and confer about the adequacy of this data, including the fields, based on plaintiffs’ detailed review (plaintiffs reserve their right to raise further issues in this regard).” This is unacceptable. Apple has produced 100,000 rows of data to developers—substantially more than you demanded. As we have said before, without objection from Plaintiffs, the reason Apple has produced such a robust sample data set is so that we can identify and resolve any issues before production, and avoid any need to repeat production. Indeed, this is the very purpose of a sample production. Production of this data is extremely burdensome and technically challenging, and Apple will not agree to do it a second time. We need to resolve issues with the production now—which we are working hard to do—so Plaintiffs need to identify any issues that you see with the sample set now.

Separately, when we spoke with Rob Lopez on July 31, he asked whether the transactional data production could be made via physical hard drives rather than a cloud-based transfer. We can

confirm that Apple is willing and able to send the production on hard drives.

Once you are prepared to respond to the points above, we are happy to speak with you by phone. Your email of 7 p.m. yesterday insisted on a 10 a.m. call today. That is unreasonable for several reasons. We had made ourselves available yesterday for a call, but you apparently could not make that happen, instead sending a lengthy email. In the past, phone calls between the parties in this case have been effective in moving things forward and resolving issues—and we certainly believe that should continue to be the case. However, we feel constrained to respond to the many points you raise in your email. You also say that you would like discuss topics other than the relational-table issue—our call will definitely be more productive if you let us know what topics are on your agenda.

In response to some of the other points in your email:

First, you say “we are surprised to learn that you have not yet discussed our concerns with your experts.” This comment seems like an unnecessary effort to suggest Apple has been dilatory, which is not the case. As you well know, we have been in constant discussions with our technical team. It has been clear to your side since the beginning of our discussions on these topics, starting in February, that we are working closely with our technical team on these difficult technical issues. As stated in my July 31 letter, our understanding has been that a single-file production would be readily usable by both sides. It was only on July 31 that Developer Plaintiffs provided more specific information as to why you believe relational tables should be used. As discussed above, consistent with our responsibilities, we have been examining those specific concerns with our technical team to determine whether it would be appropriate to produce the data to you in a different format than the sample data.

Second, we appreciate Developer Plaintiffs’ sensitivity to the effects of the current pandemic on Apple and our team. As our teams have discussed on many occasions, all of us have had to address these concerns, and we have agreed to a substantial extension of the schedule at your request, based in part on these reasons. We expect that both sides will continue to be understanding of the challenges posed by these circumstances.

Third, your email notes two “errors” in the sample production, but these are not in fact errors. You point out that the [REDACTED] column in the sample data lists “999999999” for every observation. Ben Siegel’s email of July 17 states, “the sample’s purpose is to aid in the meet-and-confer process. Thus, even though it is wholly unnecessary, sensitive data (such as developer or consumer names) in this sample only could be anonymized before production.” In light of this statement, Apple produced the [REDACTED] as “999999999” for every observation. This was not an error. Next you note that our sample transactional data does not include fields that we had mentioned in our June 25 letter in relation to the \$99 fees paid by developers. The database housing Apple’s transactional data does not contain data relating to the \$99 fees. We would remind you that Apple’s response to Developer Plaintiffs’ RFP 32 concerning the \$99 annual fees stated that Apple would “produce non-privileged documents sufficient to respond to this Request, to the extent such documents exist, are within Apple’s possession, custody, or control, and can be located after conducting a reasonably diligent search of Apple’s agreed-upon custodians’ documents pursuant to the final ESI protocol.” We are exploring what other data may be available to share with you in this regard. I also note that neither of these purported “errors” has to do with the relational table issue that you are raising.

Fourth, after reciting new specific reasons that you are requesting relational tables, you say that you have “repeatedly identified precisely these potential problems with size and access.” But that

is not so. As we have stated before, you first made your request for relational tables on July 9. On July 31, August 3, and August 4, you provided specific reasons that you say support your request. Plaintiffs' earlier general statements about efficiency in a production did not communicate any desire for relational tables or any specific reasons why such a desire might be justified. It is more helpful and illuminating to the meet-and-confer process to raise specific examples of these technical issues. Your general assertion of "efficiency" may not be accurate in all circumstances or for all systems or approaches to working with the data. Discussing specific concerns and technical issues is almost certain to be a more productive way of dealing with these highly technical issues.

We are additionally able to provide the following responses to points and questions raised in Ben's email from this past Friday, July 31. That email notes that the sample data does not include:

- \* a field explaining why a 15% commission is charged instead of a 30% commission on some subscriptions. We are working to determine whether such a field is available.
- \* fields showing the charge and receipt of the \$99 annual developer fee. As noted above, the database housing App Store transactional data does not contain data relating to the \$99 fee because this is an annual fee, not a transactional fee, and we are exploring other possible sources of this data.
- \* fields stating the end-user's method of payment. We are working to determine whether such a field is available.
- \* the [REDACTED] field and the [REDACTED] Both of these fields relate to [REDACTED] and are not necessary here because this production is limited to data from the U.S. storefront.
- \* the [REDACTED] field. This field relates to [REDACTED] This information is not relevant to plaintiffs' claims or responsive to plaintiffs' discovery requests.
- \* the [REDACTED] field. [REDACTED] This information is not relevant to plaintiffs' claims or responsive to plaintiffs' discovery requests.

Ben's July 31 email also asked whether Apple maintains a data dictionary that describes all the fields relating to App Store transactional data. Our investigation has not located any such data dictionary, but as you know, we recently sent you a list of definitions for values in the sample production fields.

We look forward to speaking with you further so that Apple can complete its production of transactional data.

Best regards,  
Eli

Eli Lazarus

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From: Ted Wojcik <[tedw@hbsslaw.com](mailto:tedw@hbsslaw.com)<<mailto:tedw@hbsslaw.com>>>  
Sent: Tuesday, August 4, 2020 7:01 PM  
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Subject: RE: Apple App Store Antitrust

[External Email]

Hi Eli,

Thanks for agreeing to raise this matter with your technical team, and for your willingness to explore producing this data in a different format. Though we recognize that you would like to consult with this team now in order to better assess your response to our position, we still believe that a call is necessary as soon as possible. We propose 10 am (Pacific) tomorrow, or later in the day, as your availability permits. There is not simply the matter of the size of the single-file production to consider, but other problems as well. Please let us know if you can make a 10 am call.

As discussed further below, we are surprised to learn that you have not yet discussed our concerns with your experts. We raised them in our July 9 letter, but your July 31 letter does not address them. Also, as indicated in our email last night, we have raised pertinent questions for many months now. Now, given the current case schedule, and the fact that we are beyond July 31, this matter is particularly time sensitive. As for your comments about the COVID pandemic, the developers have always been sensitive to its effects on your client and all of you, and we have said this repeatedly. If you wanted or needed more time to do your work, you could have told us, and we could have worked together to propose changes to the schedule to accommodate any issues on your end.



The following are some additional, specific points in response to your email:

First, you note that we have “not asserted that the format of production [plaintiffs] have proposed will result in any responsive data becoming inaccessible or otherwise missing.” Our email of last night was not meant to be exhaustive; as the email indicated, the load-time issue is just one example of the problems plaintiffs have encountered. More importantly, we have in fact alerted Apple to other problems that would arise if production were to occur as Apple presently intends. Our July 9 letter sets forth some of these.

Consistent with this, to date, we have identified a number of errors in the sample production that (1) appear to be attributable to Apple’s conversion of its data; and (2) would be avoided were that data produced in relational form, as long requested. We offer two examples that highlight this problem.

(A) In the sample of transactional data provided to plaintiffs, the [REDACTED] variable is equal to “999999999” for every observation. However, in your June 25 email, you indicated that this code corresponds to [REDACTED]. Based on your representation that this field should have had [REDACTED], this is an obvious example of Apple altering the native data when creating the “flat file” in a manner that leads to errors. This type of error is glaringly obvious, but many other errors will be undetectable if Apple only send plaintiffs a flat file. It will be burdensome and difficult to locate and address all such errors.

(B) A related type of error is omission. For example, despite promising [REDACTED] and [REDACTED] as fields in your June 25 letter, Apple did not include these fields in the sample production (as an aside, plaintiffs do need to know every payment made by developers, so this information, even had it been adequately provided, is insufficient).

These examples underscore why, as a general matter, ultimate production of a single file is not acceptable to plaintiffs: as noted in example A above, many errors will simply be undetectable, and plaintiffs will be forced to locate and correct errors that – were Apple to produce its data in relational tables – would not occur. A related problem is that, if Apple must produce an entirely new, single flat file (of 35+ TB in size) every time an error is identified (e.g., if it needs to add or correct even one column in the database), this will impose significant burden on plaintiffs and create considerable delay. In contrast, if Apple produces native relational tables, those relational tables will have unique identifiers for each transaction, customer, etc. Consequently, if Apple needs to produce an additional variable related to each transaction, then it most likely can produce a supplementary table that includes only the new data.

As for the size of the production, the broader underlying problem here is that, by combining

different types of observations into a single file, Apple creates extraordinary redundancies, which in turn create burden by heightening the risk of error and inflating the file size. A fundamental feature of relational databases is that they eliminate data redundancy. As a further illustration from the sample data provided to plaintiffs: [REDACTED] appears on 1959 different rows, along with its corresponding "content provider id" entry. If the data were instead structured as relational tables, the primary data table would only need to include the "content provider id" for every row, and would not include the content provider name. A separate data table would then allow one to use a single row of data to match [REDACTED] in the data. When such redundancies are considered across the entire data production, it is our belief that the size of this production will be significantly reduced if Apple's transactional data is instead produced as relational tables.

Second, you note that we do not estimate how the time necessary to read data from relational tables would compare to the time necessary to read it from a single file. Based on our review of the sample, we estimate that Apple's data production would be anywhere from five to fifteen times smaller were transactional data produced as relational tables. Consequently, though we are unable provide a precise estimate in response to your question, we believe this has dramatic implications for the time it will take to both load and search the data using statistical software. These implications are sufficiently significant that, as explained in my previous email, we are confident that Apple's production of transactional data as a single file would run afoul of Rule 34. This dispute is plainly about usability, among other considerations.

Though Apple appears to claim surprise at these points, we note again here that plaintiffs have repeatedly identified precisely these potential problems with size and access before; it is for this reason that they have repeatedly sought, since February, more details about the nature of Apple's data storage and its intended production. As we stated more than three weeks ago, in our July 9 letter:

We also request that Apple's ultimate transaction data production be in the format as described in the previous paragraph. Specifically, it would much more efficient and "user friendly" for data analysis if Apple produces data in separate "main" transactional table(s) . . . and "lookup tables" . . . . Production in this manner will ensure both that Apple's data are saved in a space-efficient manner and not incorrectly disturbed, which can occur accidentally even if Apple attempts to reformat the data in good faith (which we presume). By contrast, producing all of the raw data and lookup ids in a single table (instead of leaving them split as separate tables) would very likely inflate the size of the data by many times. Please confirm that Apple will produce the data in the manner requested.

See July 9 letter at 3. Most recently, in our July 31 email, we reiterated these concerns.



Finally, you state that Apple is “still awaiting [plaintiffs’] full feedback on the sample data set in order to be able to finalize the production of this data.” In our July 31 email, we identified a number of additional deficiencies with the data fields included by Apple in its sample; Apple has yet to respond, and we ask again here that it do so. Furthermore, and more importantly, following Apple’s full production of transactional data, the parties will of course continue to meet and confer about the adequacy of this data, including the fields, based on plaintiffs’ detailed review (plaintiffs reserve their right to raise further issues in this regard). In the meantime, however, Apple cannot simply withhold production of the data, as this only serves to delay and risks substantial prejudice to plaintiffs. Nor at this point can Apple simply produce a large flat file, for the reasons described herein. Hence, the urgent need for a call, and, if necessary, taking up the matter with Magistrate Judge Hixson.

Best,

Ted

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From: Lazarus, Eli M. <[elazarus@gibsondunn.com](mailto:elazarus@gibsondunn.com)<<mailto:elazarus@gibsondunn.com>>>

Sent: Tuesday, August 4, 2020 9:43 AM

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Subject: RE: Apple App Store Antitrust

Dear Ted: thanks for your email. We are surprised at your insistence that we are “at an impasse.” We are still awaiting your full feedback on the sample data set in order to be able to finalize the production of this data. We are also talking with the technical people on our team about your assertion that a single file production will be significantly more difficult to work with than a relational file production (and the further information you provided last night should be helpful in those inquiries). Apple may be willing to produce the data in a different format, if in fact the data is significantly easier to work with in that other format. We are confirming with our technical team whether that is true with respect to this data, and expect to have an answer within the next couple of days.

To be clear, you have not asserted that the format of production we have proposed will result in any responsive data becoming inaccessible or otherwise missing. At bottom, your claim that this data format renders the data not “reasonably usable” appears to be limited to your assertion that “each read of [the produced structured] data could require a significant amount of time – potentially in excess of sixteen hours.” You do not say how this “potential” amount of time would compare to similar reads of data from relational tables, and thus it is hard to compare how much more or less reasonably usable this format is, but (as noted) we are asking our technical people about this and expect to have an answer within the next couple of days.

I am not going to go point by point and respond to your other assertions, as it does not seem fruitful to multiply our disagreements. But let me respond to your core complaint. Your central concern appears to be that, in your view, Apple has taken too long to produce the documents and data that it has produced and is producing. Our teams have discussed this at length, but let me repeat the essence of our position: Apple has produced a huge amount of custodial data, and has done an enormous amount of work to locate and prepare to produce structured data. It has done both of these things under the very challenging conditions created by the pandemic for the past five months – challenging conditions that you have acknowledged and said that your teams shared. Indeed, Apple has also agreed to the plaintiffs’ request for a four month extension of the schedule in part due to those conditions.

We now appear to be very close to be ready for production of the structured data, as there seem to be only a few more issues for our teams to discuss to make that production possible. It seems to us that going to the Court now will only slow this process down, and we do not think this is productive. We are happy to talk with you today, if you insist, but we do not think that such a call will be productive until after we have heard back from our technical people about the issue you highlighted yesterday and last night.

Best,  
Eli

Eli Lazarus

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Subject: RE: Apple App Store Antitrust

[External Email]

Dear Eli,

Thanks for your response. Below is some additional detail about our position that should adequately explain why the developer plaintiffs have concluded that the parties are at an impasse. We also reiterate below our request for a phone call tomorrow at your earliest convenience, consistent with Magistrate Judge Hixson's standing order.

You ask whether it is plaintiffs' position that the single-file production Apple proposes will not be "reasonably usable." As we have explained on several occasions, yes. Most recently, in our July 9 letter – as well as in Ben Siegel's subsequent July 17, July 28, and July 31 emails – we explained, in detail, (1) why production in separate tables would "significantly alleviate the burden for both sides" and "ensure both that Apple's data are saved in a space-efficient manner and not incorrectly disturbed," and (2) that production in a single table would, by contrast, "very likely inflate the size of the data by many times." See, e.g., July 9 letter at 2-4. Our July 31 email identifies relevant legal authorities, including the Advisory Committee Notes to Rule 34, which explain that "the option to produce in a reasonably usable form does not mean that a responding party is free to convert electronically stored information from the form in which it is ordinarily maintained to a different form that makes it more difficult or burdensome for the requesting party to use the information efficiently in the litigation." Fed. R. Civ. P. 34(b) Advisory Comm. Notes to 2006 Amendment. It also explains why, pursuant to those rules, Apple's data should be produced in relational tables, which "would be far less burdensome and less difficult to use efficiently in this case than a single, flat file."

Apple did not respond to our July 9 letter and subsequent emails until your July 31 letter. In that letter, Apple rejects plaintiffs' arguments and request for production in relational tables, and has taken the position that it will produce the data in a single table. This means the parties are at an impasse on this time-sensitive issue, which now requires resolution.

To elaborate on the developer plaintiffs' position, we have concluded after careful consideration, including on the basis of the sample finally provided to us on July 23, that the single-file format proposed by Apple is not "reasonably usable" within the meaning of the relevant authorities. For

example, Apple’s conversion of data from relational tables to a single file inflates the size of the data so significantly that efficient access to and analysis of the data will be far more difficult and burdensome. Assuming local storage and access, a hard disk with a generous bandwidth might average 600 MB per second. If Apple produces 35 terabytes of data, each read of that data could require a significant amount of time – potentially in excess of sixteen hours. Furthermore, developer plaintiffs contend that they are due production of data relating to distribution transactions corresponding to retail sales from foreign App Store storefronts, which, according to you, will amplify the size of the total production, and thus further degrade the usability of the data, significantly.

This is at odds with the requirements of Rule 34. Further, in an attempt to avoid this situation, the developer plaintiffs have consistently asked for information regarding Apple’s data and proposed plans for collection and production of data and documents. Yet repeatedly, Apple’s answer has been that the developer plaintiffs aren’t entitled to this helpful information, and that their requests for information are attempts at impermissible discovery on discovery. Cf. N.D. Cal. Checklist For Rule 26(F) Meet And Confer Regarding Electronically Stored Information (under the “Production” heading as a topic to be discussed: “The formats in which structured ESI (database, collaboration sites, etc.) will be produced.”); N.D. Cal. Guidelines for the Discovery of Electronically Stored Information, Guideline 1.02 (“The Court expects cooperation on issues relating to the preservation, collection, search, review, and production of ESI. . . . The Court emphasizes the particular importance of cooperative exchanges of information at the earliest possible stage of discovery, including during the parties’ Fed. R. Civ. P. 26(f) conference.”) (emphasis added); Guideline 2.02 (“In order to be meaningful, the meet and confer should be as sufficiently detailed on these topics as is appropriate in light of the specific claims and defenses at issue in the case. Some or all of the following details may be useful to discuss, especially in cases where the discovery of ESI is likely to be a significant cost or burden: . . . Search and production of ESI, such as any planned methods to identify discoverable ESI and filter out ESI that is not subject to discovery, or whether ESI stored in a database can be produced by querying the database and producing discoverable information in a report or an exportable electronic file . . . .”) (emphasis added).

Notwithstanding the foregoing, you state that “[p]laintiffs did not make any request that the data be produced in relational tables until July 9, after Apple had completed significant and burdensome work toward production of this data.” Again, this is not consistent with the record of communication between the parties. Since February, plaintiffs have repeatedly – and without substantive response – requested that Apple more clearly specify the manner in which its data is stored, as well as the manner in which it intends to produce that data. For example, by letter dated February 24, 2020, plaintiffs requested that Apple (i) identify its databases, “particularly those databases with structured data”; (ii) generate a sample of that data for review by plaintiffs; and (iii) more clearly describe the features of its relational databases. See February 24 letter at 4. The purpose of this was to enable plaintiffs to make “reasonable requests for additional information from Apple to explain the database[.]” and thus to further the parties’ ability to meet and confer on this issue “prior to final production of data from a database[.]” *Id.* at 4-5 (emphasis added). Plaintiffs also requested that “[t]he parties . . . meet and confer prior to final production of data from a database, regarding the substance of the production, as well as the format of production to ensure that data is produced in a usable format.” *Id.* at 5.

Apple cannot for months refuse plaintiffs' requests to describe its databases, the proposed form of production, and related request for a sample, and then assert credibly that plaintiffs' objection to the proposed form of production is untimely. Had Apple, prior to July 31, answered questions regarding the form in which it stores its data and how it proposed to produce its data, the parties would not find themselves on August 3 in the instant situation (assuming that Apple has actually already readied the production in flat form, without conferring with us first). Indeed, it was only on July 23, 2020, that Apple produced the long-sought sample of transactional data for plaintiffs' review, thus preventing them from adequately assessing (and objecting to) what you now have confirmed, as of this past Friday, is the intended format of Apple's forthcoming production.

Finally, and in any event, Apple is obligated to produce its data in a manner that complies with Rule 34 and the relevant case law. Plaintiffs believe these authorities require production here in relational tables.

We requested in my prior email that Apple make itself available for a telephone call today to discuss this issue. Apple has yet to respond to this request. We again ask for a phone call for tomorrow (Tuesday) at your earliest convenience, which we believe is consistent with Magistrate Judge Hixson's standing order. Please identify a time tomorrow that works. We further ask that Apple respond to plaintiffs' proposed briefing schedule, as previously requested.

Best,

Ted

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From: Lazarus, Eli M. <[elazarus@gibsondunn.com](mailto:elazarus@gibsondunn.com)<<mailto:elazarus@gibsondunn.com>>>

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Subject: RE: Apple App Store Antitrust

Ted, we do not agree that we are at impasse on the issue of whether the transactional data will be produced as a single table or as multiple relational tables. We are certainly willing to discuss this with you further, and we want to understand your position with respect to this issue.

We note that plaintiffs' RFPs requested that "[t]o the extent responsive DOCUMENTS reside on databases and other such systems and files, [Apple] produce the relevant database in useable form and/or permit access for inspection, review and extraction of responsive information." And as you note, "[i]f a request does not specify a form for producing electronically stored information, a party must produce it in a form or forms in which it is ordinarily maintained or in a reasonably usable form or forms." Fed. R. Civ. P. 34(E)(ii). Apple has worked diligently to prepare transactional data for production in a usable form that will allow plaintiffs to access and search the data. Plaintiffs did not make any request that the data be produced in relational tables until July 9, after Apple had completed significant and burdensome work toward production of this data.

You now argue that data produced in relational tables "would [be] much more efficient and 'user-friendly.'" But "more efficient and user-friendly" is not the standard. Apple is obligated to produce the data in a reasonably usable form and is prepared to do so. Your correspondence does not clearly take the position that a single-file production will not be reasonably usable. Do you mean to take that position, and if so, can you please explain how a single, searchable table containing all of the produced data would not be reasonably usable? Do you believe that there is any responsive and relevant information that will be missing or inaccessible because of this production format? If so, please provide the specifics of your position.

As noted, we are certainly willing to explore this issue further with you. We are available to speak with you, but we believe our discussion would benefit from further clarification of plaintiffs' position as requested above. We also look forward to hearing other feedback that you may have on our sample data production.

Eli Lazarus

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From: Ted Wojcik <[tedw@hbsslaw.com](mailto:tedw@hbsslaw.com)<<mailto:tedw@hbsslaw.com>>>  
Sent: Monday, August 3, 2020 10:32 AM  
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Subject: RE: Apple App Store Antitrust

[External Email]

Dear Eli and Apple Counsel:

Thank you for your letter on July 31 responding to some of this issue raised in plaintiffs' July 9 data letter and follow up emails. Though we believe Apple's responses are incomplete and require further follow up, it appears that we have reached an impasse on the critical issue of how Apple proposes to produce the data. This issue is time-sensitive. Thus, we need to proceed to the five page joint letter briefing under Magistrate Judge Hixson's standing order now.

Below, we describe the issue for dispute and plaintiffs' proposed briefing schedule. We ask for Apple's agreement or any proposed modification by close of business today. To confirm the parties' positions, and consistent with Judge Hixson's requirements, we also ask that you make yourself available today for a phone call on this issue.

Issue for resolution: Plaintiffs move for Apple's ultimate production of responsive and relevant data in multiple relational tables - i.e., the relational tables in which Apple itself stores the data. Apple declines to do so, and plans to take the relevant and responsive data from those multiple tables and convert it into a single table for production.

Proposed briefing schedule (in accordance with <https://www.cand.uscourts.gov/wp-content/uploads/judges/hixson-tsh/TSH-Discovery-Standing-Order.pdf>, under point (2)): (1) The parties exchange each side's 2.5 page portion of the joint statement and any exhibits on Monday, August 10, 2020 at 5 pm PST (plaintiffs will also send the proposed cover page at that time); (2) the parties exchange final versions of their 2.5 page portion and exhibits, incorporating responses to the other side's initial draft, on Wednesday, August 12, 2020 at 12 pm PST; and (3) after each side's portion with exhibits and with the cover page are combined into a final version by plaintiffs' counsel's staff, and circulated, each side gives final approval and plaintiffs will file.



Again, plaintiffs request Apple's agreement or any proposed modification to this schedule by close of business today. While we will consider any such proposed modification, we believe that our proposed briefing schedule for a single-issue, 2.5 page joint discovery letter is sufficient. Moreover, plaintiffs have sought resolution of this issue for some time; given the need for timely production of data, it is time-sensitive. Thus, plaintiffs will be hesitant to agree to any extension to the briefing schedule, which we believe would be prejudicial.

Best,

Ted

Ted Wojcik | Hagens Berman Sobol Shapiro LLP | Direct: (206) 268-9329

From: Lazarus, Eli M. <[elazarus@gibsondunn.com](mailto:elazarus@gibsondunn.com)<<mailto:elazarus@gibsondunn.com>>>

Sent: Friday, July 31, 2020 9:28 PM

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Subject: Apple App Store Antitrust

Counsel,

Please see the attached correspondence.

Very best,  
Eli

Eli Lazarus

GIBSON DUNN

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